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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of

Richard D. Breault et al

Serial No.: 10/668,869 Docket No. C-2789

Filed: September 22, 2003 Art Unit: 1745

Title: Internal PEM Fuel Cell Water Management Examiner: Ben Lewis

I hereby certify that this correspondence is being facsimile transmitted to the United States Patent and Trademark Office (Fax No. 571-273-8300) on December 28, 2007

Barbara Ceccre

RESPONSE

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

This paper is responsive to the Office Action dated October 2, 2007. Claims 2, 4, 5, 8 and 15 having been cancelled, claims 6, 7 and 9-14 having been withdrawn from consideration, claims 1, 3 and 16-20 are present for consideration.

1, 2. Claims 18 and 19 are rejected under -112, first paragraph, for failing to comply with enablement. Enclosed is a -132 Declaration of Richard D. Breault who clearly is well versed in the field of fuel cells and related arts.

Consider first paragraph 8 of the Declaration, where a summary of the nature of establishing the flows in claims 18 and 19 would be achieved by one skilled in the fuel cell arts. In summary, it is quite simple: the current tells the artisan how many moles of water are being produced per unit of time. Knowing that, the percentages are easily calculated and the balancing of the cathode exit temperature and the cathode to anode pressure differential, while measuring anode water transport plate outflow and cathode vapor outflow is routine and easily completed in a matter of hours. Paragraph 4 of the Declaration describes how one skilled in the art prior to September 2003 would know that two gram moles of water are produced for every four gram moles of electrons, which means that 5.1×10^{-6} moles of water are produced per second per ampere of current produced by the fuel cell power plant.

Paragraph 5 of the Declaration establishes how one skilled in the fuel cell arts would know, prior to September 2003, how one would use Darcy's law to determine the flow of water from cathode to anode based upon the permeability, area of flow and length of the